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TOWNSEND and TOWNSEND and CREW LLP

By: 

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

JAMEY GRAHAM et al.

Application No.: 09/636,039

Filed: August 9, 2000

For: TECHNIQUES TO FACILITATE
READING OF A DOCUMENT

Confirmation No. 5597

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Technology Center/Art Unit: 2178

APPELLANTS' BRIEF UNDER
37 CFR §41.37

Mail Stop Appeal Brief
Commissioner for Patents
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Commissioner:

Further to the Notice of Appeal mailed on February 9, 2009 for the above-
referenced application, Appellants submit this Brief on Appeal.

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1. REAL PARTY IN INTEREST

All right, title, and interest in the subject invention and application are assigned to Ricoh Company, Ltd. of Tokyo, Japan. Therefore, Ricoh Company, Ltd. is the real party in interest.

2. RELATED APPEALS AND INTERFERENCES

None.

3. STATUS OF CLAIMS

Claims 11-19, 30-38, and 40-44 are pending and stand rejected. Appellants appeal the rejection of claims 11-19, 30-38, and 40-44.

4. STATUS OF AMENDMENTS

On September 23, 2008, a response to a final rejection was filed. Claims 11, 19, 30, 38, 40, and 41 were amended in this response and there are no amendments awaiting entry.

5. SUMMARY OF CLAIMED SUBJECT MATTER

Claims 11-19, 30-38, and 40-44 recite system and methods that help a reader to quickly find and assimilate information contained in a document. The document is searched to locate text patterns that are relevant to one or more user-specified concepts of interest. Text patterns corresponding to locations of these concepts of interest within the document are marked, and when the document is displayed to a user, the text patterns are annotated. See Specification at page 2, lines 14-24. A thumbnail image displaying the contents of the document is also constructed and displayed to the user. A section of the thumbnail image is emphasized that corresponds to a section of the document being displayed in a first viewing area of a display. See Specification at page 2, lines 25-34.

Independent claims 11, 19, 30, 38, 40, and 41 are pending in the present application. Claim 11 is directed to a computer-implemented method for displaying a document using a browser. See Fig. 7, and Specification at page 14, lines 30-23. The method of claim 11

includes accessing a document, and receiving user input of a selection of a first concept from a set of concepts of interest to the user. See Fig. 7, reference no. 602, and Specification at page 14, lines 32-34. The method also includes displaying a section of the document in a first viewing area of a display. Portions of the document that are relevant to the first concept are annotated and the annotations displayed to the user. The annotations visually highlight portions of the documents that include one or more keywords associated with the set of concepts and identified from a plurality of keywords stored for the first concept. See Fig. 7, reference no. 702, and Specification at page 15, lines 5-20. The method of claim 11 also includes extracting the contents of the document, and displaying a single thumbnail image in a second viewing area of the display. The single thumbnail image displays both the contents of the document and the annotations in a continuous non-paginated form. See Fig. 7, reference nos. 706 and 708, Fig. 10, and Specification at page 15, lines 21-31. The method of claim 11 also includes emphasizing a portion of the single thumbnail image corresponding to the section of document being displayed in the first viewing area. See Specification at page 29, lines 4-10, page 35, lines 15-23, and page 36, lines 7-18. Claim 11 also includes dynamically changing the contents of the single thumbnail image to reflect changes in the contents of the document being displayed in the first viewing area. See Specification at page 29, lines 4-10, page 35, lines 15-23, and page 36, lines 7-18.

Claim 19 is directed to a computer-implemented method for displaying a document using a browser. See Fig. 7, and Specification at page 14, lines 30-23. The method of claim 19 includes accessing a document. See Fig. 7, reference no. 602, and Specification at page 14, lines 32-34. The method also includes receiving user input of a selection of a first concept from a set of concepts of interest to the user. See Fig 2, and Specification at page 5, lines 10-18. The method of claim 19 includes identifying, from previously defined information comprising associations between a plurality of text patterns and the plurality of concepts, one or more text patterns in the plurality of text patterns that are associated with the first concept, wherein the identification is independent of a user selection of a second concept from the plurality of concepts, and searching the document to identify occurrences of the one or more text patterns in the document. See Fig. 8, and Specification at page 15, line 32-page 16, line 22. The method

also includes displaying a section of the document in a first viewing area of a display. Portions of the document that are relevant to the first concept are annotated and the annotations displayed to the user. The annotations visually highlight portions of the documents that include one or more keywords associated with the set of concepts and identified from a plurality of keywords stored for the first concept. See Fig. 7, reference no. 702, and Specification at page 15, lines 5-20. The method of claim 19 also includes extracting the contents of the document, and displaying a single thumbnail image in a second viewing area of the display. The single thumbnail image displays both the contents of the document and the annotations in a continuous non-paginated form. See Fig. 7, reference nos. 706 and 708, and Specification at page 15, lines 21-31. Claim 19 also includes dynamically changing the contents of the single thumbnail image to reflect changes in the contents of the document being displayed in the first viewing area. See Specification at page 29, lines 4-10, page 35, lines 15-23, and page 36, lines 7-18. The method of claim 19 also includes emphasizing a portion of the single thumbnail image corresponding to the section of document being displayed in the first viewing area. See Specification at page 7, lines 6-14.

Claim 30 is directed to a system for displaying a document using a browser. See Figs. 1 and 7, and Specification at page 14, lines 30-23. The system of claim 30 includes a processor and a memory coupled to the processor that is configured to store a plurality of modules for execution by the processor. See Fig. 1, reference nos. 14 and 16, and Specification at page 14, lines 1-7. The plurality of modules includes a module for accessing a document. See Fig. 7, reference no. 602, and Specification at page 14, lines 32-34. The plurality of modules also includes a module for receiving user input selecting a first concept from a plurality of concepts. See Fig 2, and Specification at page 5, lines 10-18. The plurality of modules also includes a module for displaying a section of the document in a first viewing area of a display including displaying annotations that visually emphasize portions of the document that are relevant to the first concept. The annotations visually highlight portions of the document that include one or more keywords associated with the one or more concepts and identified from a plurality of keywords stored for the first concept. Each annotation visually emphasizes the one or more keywords and related text surrounding the locations of the one or more keywords. See

Fig. 7, reference no. 702, and Specification at page 15, lines 5-20. The plurality of modules also includes a module for extracting contents of the document. The contents comprise text and one or more elements, and a module for displaying a single thumbnail image in a second viewing area of the display based on the contents extracted from the document. The single thumbnail image displays the contents of the document in a continuous non-paginated form. See Fig. 7, reference nos. 706 and 708, and Specification at page 15, lines 21-31. The modules also include a module for emphasizing an area of the single thumbnail image corresponding to the section of the document displayed in the first viewing area including the annotations. See Specification at page 7, lines 6-14. The modules also include a module for dynamically changing the contents of the single thumbnail image to reflect a change in the contents of the document displayed in the first viewing area. See Specification at page 29, lines 4-10, page 35, lines 15-23, and page 36, lines 7-18.

Claim 38 is directed to a system for displaying a document using a browser. See Figs. 1 and 7, and Specification at page 14, lines 30-23. The system of claim 38 includes a processor and a memory coupled to the processor that is configured to store a plurality of modules for execution by the processor. See Fig. 1, reference nos. 14 and 16, and Specification at page 14, lines 1-7. The plurality of modules include a module for accessing a document. See Fig. 7, reference no. 602, and Specification at page 14, lines 32-34. The plurality of modules also includes a module for receiving user input selecting a first concept from a plurality of concepts. See Fig 2, and Specification at page 5, lines 10-18. The plurality of modules includes a module for identifying, from previously defined information comprising associations between a plurality of text patterns and the plurality of concepts, one or more text patterns in the plurality of text patterns that are associated with the first concept, wherein the identification is independent of a user selection of a second concept from the plurality of concepts. See Fig. 7, reference no. 702, and Specification at page 15, lines 5-20. The plurality of modules also includes a module for searching the document to identify occurrences of the one or more text patterns in the document. See Fig. 8, and Specification at page 15, line 32-page 16, line 22. The plurality of modules also includes a module for displaying a section of the document in a first viewing area of a display including displaying annotations that visually emphasize portions of the document

that are relevant to the first concept. The annotations visually highlight portions of the document that include one or more keywords associated with the one or more concepts and identified from a plurality of keywords stored for the first concept. Each annotation visually emphasizes the one or more keywords and related text surrounding the locations of the one or more keywords. See Fig. 7, reference no. 702, and Specification at page 15, lines 5-20. The plurality of modules also includes a module for extracting contents of the document. The contents comprise text and one or more elements, and a module for displaying a section of the document in a first viewing area of a display such that the occurrences of the text patterns in the document are annotated. The annotations visually emphasize portions of the document that are relevant to the first concept and portions of the document that include the text patterns associated with the first concept, including the text patterns and related text surrounding the locations of the one or more keywords. See Fig. 7, reference nos. 706 and 708, and Specification at page 15, lines 21-31. The plurality of modules also include a module for dynamically changing the contents of the single thumbnail image to reflect a change in the contents of the document displayed in the first viewing area. See Specification at page 29, lines 4-10, page 35, lines 15-23, and page 36, lines 7-18. The plurality of modules also include a module for emphasizing an area of the single thumbnail image corresponding to the section of the document displayed in the first viewing area. See Specification at page 7, lines 6-14.

Claim 40 is directed to a computer program product stored on a computer readable storage medium for displaying a document using a browser. See Figs. 1 and 7, and Specification at page 14, lines 30-23. The computer program product includes code for accessing a document. See Fig. 7, reference no. 602, and Specification at page 14, lines 32-34. The computer program product also includes code for receiving user input selecting a first concept from a plurality of concepts. See Fig 2, and Specification at page 5, lines 10-18. The computer program product of claim 40 also includes code for displaying a section of the document in a first viewing area of a display including displaying annotations that visually emphasize portions of the document that are relevant to the first concept. The annotations visually highlight portions of the document that include one or more keywords associated with the one or more concepts and identified from a plurality of keywords stored for the first concept.

Each annotation visually emphasizes the one or more keywords and related text surrounding the locations of the one or more keywords. See Fig. 7, reference no. 702, and Specification at page 15, lines 5-20. The computer program product also includes code for extracting contents of the document. The contents comprises text and one or more elements, and code for displaying a single thumbnail image in a second viewing area of the display based on the contents extracted from the document, the single thumbnail image displaying the contents of the document including the annotations in a continuous non-paginated form. See Fig. 7, reference nos. 706 and 708, and Specification at page 15, lines 21-31. The computer program product also includes code for code for emphasizing an area of the single thumbnail image corresponding to the section of the document displayed in the first viewing area. See Specification at page 7, lines 6-14. The computer program product also includes code for dynamically changing the contents of the single thumbnail image to reflect a change in the contents of the document displayed in the first viewing area. See Specification at page 29, lines 4-10, page 35, lines 15-23, and page 36, lines 7-18.

Claim 41 is directed to a computer program product stored on a computer readable storage medium for displaying a document using a browser. See Figs. 1 and 7, and Specification at page 14, lines 30-23. The computer program product includes code for accessing a document. See Fig. 7, reference no. 602, and Specification at page 14, lines 32-34. The computer program product also includes code for receiving user input selecting a first concept from a plurality of concepts. See Fig 2, and Specification at page 5, lines 10-18. The computer program product also include code for identifying, from previously defined information comprising associations between a plurality of text patterns and the plurality of concepts, one or more text patterns in the plurality of text patterns that are associated with the first concept. The identification is independent of a user selection of a second concept from the plurality of concepts. See Fig. 3, and Specification at page 8, lines 4-18. The computer program product further comprises code for searching the document to identify occurrences of the one or more text patterns in the document, and code for displaying a section of the document in a first viewing area of a display such that the occurrences of the text patterns in the document are annotated. The annotations visually emphasizing portions of the document that are relevant to

the first concept and portions of the document that include of the text patterns associated with the first concept. Each annotation visually emphasizes the text patterns and related text surrounding the locations of the one or more keywords. See Fig. 7, reference no. 702, and Specification at page 15, lines 5-20. The computer program product further comprises code for extracting contents of the document, the contents comprising text and one or more elements, and code for displaying a single thumbnail image in a second viewing area of the display based on the contents extracted from the document, the single thumbnail image displaying the contents of the document including the annotations in a continuous non-paginated form, and code for dynamically changing the contents of the single thumbnail image to reflect a change in the contents of the document displayed in the first viewing area. See Fig. 7, reference nos. 706 and 708, and Specification at page 15, lines 21-31, page 29, lines 4-10, page 35, lines 15-23, and page 36, lines 7-18. The computer program product also includes code for emphasizing an area of the single thumbnail image corresponding to the section of the document displayed in the first viewing area. See Specification at page 7, lines 6-14.

In the preceding summary of claimed subject matter, Appellants have provided exemplary references to sections of the Specification and drawings supporting the subject matter of the claims as required by 37 C.F.R. § 41.37. These references are illustrative in nature and are not intended to limit the scope of the claims.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 11-19, 30-38, and 40-44 are enabled the by specification?
2. Whether claims 11-14, 17, 18, 30-36, 37, and 40 are unpatentable under 35 U.S.C. §103(a) as being obvious over Adobe Acrobat Reader (published 1999)(“Acrobat Reader”) in view of U.S. Patent No. 5,546,502 to Hart et al. (“Hart”), and further in view of U.S. Patent No. 6,326,957 to Nathan et al. (“Nathan”)?
3. Whether claims 15, 19, 34, 38, and 41-43 are unpatentable under 35 U.S.C. §103(a) as being obvious over Acrobat Reader in view of U.S. Patent No. 6,339,437 to Nielson (“Nielson”) further in view of Hart and Nathan?

4. Whether claims 16 and 35 are unpatentable under 35 U.S.C. §103(a) as being obvious over Acrobat Reader in view of Nielson further in view of Hart, Nathan, and U.S. Patent Application Publication Number 2002/0065814 to Okamoto et al. (hereinafter Okamoto).

7. ARGUMENT

7.1 Claims 11-19, 30-38, and 40-44 are Enabled

The Examiner asserted that no support could be found for the limitation “the annotations visually highlighting portions of the document that include of one or more keywords associated with the one or more concepts and identified from a plurality of keywords stored for the first concept, wherein each annotation visually emphasizes the one or more keywords and related text surrounding the locations of the one or more keywords” as variously recited in independent claims 11, 19, 30, 38, 40 and 41. But, specific support can be found at least on page 6, lines 18-25 of Appellants’ specification as filed:

Various other techniques may also be used to indicate the annotations according to the teachings of the present invention. For example, the relevant text may be bolded, underlined, a marginal annotation in the form of a rectangular bar may indicate a paragraph that has been determined to have relevance above a predetermined threshold or to have more than a threshold number of key phrases, a balloon displaying information about a concept related to a phrase may appear when the phrase is selected using an input device such as a mouse, and other like techniques may be used to annotate the displayed document.

Specification as filed, page 6, lines 18-25. The cited portion of Appellants’ specification provides one example of visually highlighting portions of the text where “each annotation visually emphasizes the one or more keywords and related text surrounding the locations of the one or more keywords” as variously recited in Appellants’ claims 11, 19, 30, 38, 40 and 41.

Claims 12-18 and 42 depend from claim 11, claims 31-37 and 43 depend from claim 30, and claim 44 depends from claim 41.

Accordingly, the rejection of claims 11-19, 30-38, and 40-44 over Witt should be reversed.

7.2 Claims 11-14, 17, 18, 30-33, 36, 37, and 40 are not rendered obvious by Acrobat Reader, Hart, and Nathan

To establish obviousness, the Examiner must establish that the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. See MPEP 2141. During examination, claims are to be given their broadest reasonable interpretation in light of the specification. MPEP §2111.01, citing *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004). What is "reasonable" is to be determined with reference to the specification. In particular, "[w]here an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim." MPEP §2111.01, citing *Toro Co. v. White Consolidated Industries, Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999).

The Examiner has rejected claims 11-14, 17, 18, 30-36, 37, and 40 as being obvious over Acrobat Reader in view of Hart and further in view of Nathan. But, Acrobat Reader, Hart, and Nathan, either alone or in combination fail to teach or even suggest every element of claim 1. For example, Acrobat Reader, Hart, and Nathan fails to teach that "dynamically changing the contents of the single thumbnail image to reflect a change in the contents of the document displayed in the first viewing area," as recited in Appellants' claim 11. The Examiner relied on col. 6, lines 11-14 of Nathan to teach these features of claim 11. But, no support could be found for the Examiner's allegations in the cited portion of Nathan or elsewhere in the disclosure of Nathan.

Nathan merely discloses systems and methods for displaying page information in a handwriting recording device such as a personal digital notepad ("PDN") device. See Nathan, Abstract. The Examiner relied on the "dynamic icons" disclosed in Nathan to teach "dynamically changing the contents of the single thumbnail image" feature recited in claim 11. But, Appellants submit that the "dynamic icons" described in Nathan do not dynamically change their contents "to reflect a change in the contents of the document in the first viewing area" as recited in claim 11.

Instead, the thumbnail images in Nathan represent a page of handwritten text that has been captured by a PDN device. The PDN device includes a small LCD panel embedded in the device that can be used to display a thumbnail image that is a rough approximation of the ink structure from a page of digitally captured handwriting. When a user switches the PDN device to thumbnail display mode, a thumbnail image representing a page of captured handwriting stored in the memory of the PDN is displayed on the LCD panel. The thumbnail image is generated from recorded positional data representing "digital ink" for a selected page of handwriting stored in memory. See Nathan, col. 5, lines 37-50. The PDN device may store multiple pages of handwriting, and the user may browse through these pages in memory. When the user selects the next page stored in memory, the thumbnail image is updated to display a rough approximation of the next page of handwriting stored in memory.

Col. 6, lines 11-14 of Nathan, relied on by the Examiner, merely provides that the "the thumbnail representation of a digital page may be dynamically displayed, whereby the displayed thumbnail is continually updated as the user writes on the page." Nathan, col. 6, lines 14-18. Merely updating the dynamic icon as the user writes on the digitizing tablet portion of the PDN is not the same thing as dynamically changing the contents of a thumbnail image in response to a change in the contents of a document "in the first viewing area" as recited in claim 11. As described above, the dynamic icon is merely a representation of a set of positional data (Nathan, col. 5, line 43) recorded as the user writes using a special inked stylus on a piece of paper placed over the digitizing tablet portion of the PDN. The display capability of the PDN device in Nathan is limited to the small LCD panel described above that is used to display the dynamic icons. Nathan does not provide a means for displaying the contents of the handwritten document in a first viewing area as recited in claim 11. Accordingly, the contents of the "dynamic icons" described in Nathan are not dynamically changed to reflect a change in the contents of a document in a first viewing area as recited in claim 11. The deficiencies of Nathan are not cured by Acrobat Reader or Hart.

For at least the reasons provided, Acrobat Reader, Nathan, and Hart fail to render claim 11 obvious. Independent claims 30 and 40 are allowable for similar reasons as claim 11. Claims 12-14, 17, and 18 depend from claim 11, and claims 31-33, 36, and 37 depend from

claim 30, and should also be condition for allowance at least due to their dependence from claims 11 and 30, respectively.

Accordingly, the rejection of claims 11-14, 17, 18, 30-33, 36, 37, and 40 over Acrobat Reader, Hart, and Nathan should be reversed.

7.3 Claims 15, 19, 34, 38, and 41-43 are not rendered obvious by Acrobat Reader, Nielson, Hart, and Nathan

Claims 15 and 42 depend from claim 11, and claims 34 and 43 depend from claim 30, and claims 15, 34, 42, and 43 should be in condition for allowance at least due to their dependence from claims 11 and 30, respectively.

Claims 19, 38, and 41 are independent claims. Claims 19, 38, and 41 should be allowable for similar reasons as claims 11, 30, and 40 provided above and for at least the additional reasons provided below.

Claim 19 is allowable for additional reasons. For example, claim 19 recites, in part, “displaying a section of the document in a first viewing area of a display such that the occurrences of the text patterns in the document are annotated, the annotations visually emphasizing portions of the document that are relevant to the first concept, the annotations visually highlighting portions of the document that include of the text patterns associated with the first concept, wherein each annotation visually emphasizes the text patterns and related text surrounding the locations of the one or more keywords.”

The Examiner relied upon Nielson to teach annotations (formerly recited in claims 19, 38, 41). Nielson is directed to techniques for relevance-enhanced scrolling. The system of Nielson merely accepts a set of query terms from a user and marks those keywords in the document to emphasize the keywords. See Nielson, col. 4, lines 52-67. In contrast, the method recited in claim 19 advantageously visually emphasizes not only portions of the text that include keywords but also emphasizes related text surrounding the locations of the keywords. As a result, a user can quickly scan through the contents of the document and recognize portions of the document that may be of interest the user. The annotations to the document are also displayed in the thumbnail view of the document provided by the single thumbnail image. The

advantages of visually emphasizing entire portions of the document related to a keyword rather than just the keywords only (as in Nielson) are readily apparent, because the thumbnail image provides a continuous non-paginated view of the document in which the annotated portions of text are represented. In the reduced-sized view provided by the thumbnail image, emphasizing entire portions of the document enables the user to more easily discern those portions of the document that include text related to the user's concepts of interest.

Acrobat Reader, Hart, and Nathan fail to remedy the deficiencies of Nielson. For at least the reasons provided, the combination of Acrobat Reader, Nielson, Hart, and Nathan fails to render claim 19 obvious. Independent claims 19, 38, and 41 are allowable over the combination of Acrobat Reader, Nielson, Hart, and Nathan for similar reasons as claim 19.

Accordingly, the rejection of claims 15, 19, 34, 38, and 41-43 over Acrobat Reader, Nielson, Hart, and Nathan should be reversed.

7.4 Claims 16 and 35 are not obvious over Acrobat Reader in view of Nielson and in further view of Hart, Nathan, and Okamoto

Claim 16 depends from claim 15, and claim 35 depends from claim 43. Okamoto fails to remedy the deficiencies the combination of Acrobat Reader, Nielson, and Hart. Therefore, claims 16 and 35 are also allowable at least due to their dependence from claims 15 and 35, respectively. Claims 16 and 34 are also allowable over the combination of Acrobat reader, Nielson, Hart, Nathan, and Okamoto for additional reasons.

Claim 16 recites, in part, “modifying the style information for the first concept thereby changing the appearance of the document displayed in the first viewing area, wherein dynamically changing the contents of the single thumbnail image comprises: identifying text entities in the document which are relevant to the first concept; and dynamically changing the display of the identified text entities in the single thumbnail image to reflect the modified style information.” The Examiner relied on paragraphs [0270]-[0276] of Okamoto to teach these features of claim 16. But, the cited portions of Okamoto do not teach “modifying the style information for the first concept thereby changing the appearance of the document displayed in the first viewing area” as recited in Appellants’ claim 16. Okamoto merely describes a system

where a document matching query criteria is first processed to highlight search strings in the document and the highlighted document is then displayed. See Okamoto, Abstract. Okamoto does not teach or suggest “modifying the style information for a first concept” once a search has been completed and the document has been displayed “thereby changing the appearance of the document displayed in the first viewing area” as recited in Appellants’ claim 16. Paragraphs [0270]-[0276] of Okamoto merely describe highlight tags being inserted into the document as the document is being processed. Okamoto does not teach or even suggest that the appearance of the highlights may be changed once highlight tags have been added to the document and the document displayed. Nielson, Hart, and Nathan fail to remedy the deficiencies of Okamoto.

Claim 35 recites, in part, that “the plurality of modules stored in the memory further comprises: a module for modifying the style information for the first concept;” and “in response to the modification: a module for identifying text entities in the document which are relevant to the first concept, and a module for dynamically changing the display of the identified text entities in the single thumbnail image based on the modified style information.” The Examiner relied on paragraphs [0270]-[0276] of Okamoto to teach these features of claim 35. Claim 35 should be allowable over the combination of Nielson, Hart, Nathan, and Okamoto for similar reasons as claim 16.

Accordingly, the rejection of claims 16 and 35 over Acrobat Reader, Nielson, Hart, Nathan, and Okamoto should be reversed.

8. CONCLUSION

For these reasons, it is respectfully submitted that the rejection should be reversed.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'J. King', written over a horizontal line.

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9. CLAIMS APPENDIX

1-10. (Canceled).

11. (Previously Presented) A computer-implemented method of displaying a document using a browser, the method comprising:

accessing a document;

receiving user input of a selection of a first concept from a set of concepts;

displaying a section of the document in a first viewing area of a display including displaying annotations that visually emphasize portions of the document that are relevant to the first concept, the annotations visually highlighting portions of the document that include one or more keywords associated with the one or more concepts and identified from a plurality of keywords stored for the first concept, wherein each annotation visually emphasizes the one or more keywords and related text surrounding the locations of the one or more keywords;

extracting contents of the document, the contents comprising text and one or more elements;

displaying a single thumbnail image in a second viewing area of the display based on the contents extracted from the document, the single thumbnail image displaying the contents of the document including the annotations in a continuous non-paginated form;

emphasizing an area of the single thumbnail image corresponding to the section of the document displayed in the first viewing area; and

dynamically changing the contents of the single thumbnail image to reflect a change in the contents of the document displayed in the first viewing area.

12. (Previously presented) The method of claim 11 wherein:

extracting the contents of the document comprises:

determining dimension information for the contents; and

determining coordinate information for the contents; and

displaying the single thumbnail image comprises:

displaying the contents in the single thumbnail image based on the dimension and coordinate information for the contents.

13. (Previously presented) The method of claim 12 wherein displaying the contents in the single thumbnail image based on the dimension and coordinate information for the contents comprises:

for each content:

determining position of the content in the single thumbnail image by dividing the coordinate and dimension information for the content by a reduction ratio.

14. (Previously presented) The method of claim 11 wherein each concept in the set of concepts is specified as a set of keywords belonging to the concept.

15. (Previously presented) The method of claim 42 wherein displaying the single thumbnail image comprises:

for each text entity that is relevant to the first concept displaying the text entity in the single thumbnail image using the style information for the first concept.

16. (Previously presented) The method of claim 15 further comprising:
modifying the style information for the first concept thereby changing the appearance of the document displayed in the first viewing area;

wherein dynamically changing the contents of the single thumbnail image comprises:

identifying text entities in the document which are relevant to the first concept; and

dynamically changing the display of the identified text entities in the single thumbnail image to reflect the modified style information.

17. (Previously presented) The method of claim 11 wherein extracting the contents of the document comprises:

extracting one or more forms contained in the document; and

determining dimension and coordinate information for the one or more forms.

18. (Previously presented) The method of claim 11 wherein extracting the contents of the document comprises:

extracting one or more image elements contained in the document; and
determining dimension and coordinate information for the one or more image elements.

19. (Previously Presented) A computer-implemented method of displaying a document using a browser, the method comprising:

accessing the document;
receiving user input selecting a first concept from a plurality of concepts;
identifying, from previously defined information comprising associations between a plurality of text patterns and the plurality of concepts, one or more text patterns in the plurality of text patterns that are associated with the first concept, wherein the identification is independent of a user selection of a second concept from the plurality of concepts;

searching the document to identify occurrences of the one or more text patterns in the document;

displaying a section of the document in a first viewing area of a display such that the occurrences of the text patterns in the document are annotated, the annotations visually emphasizing portions of the document that are relevant to the first concept, the annotations visually highlighting portions of the document that include of the text patterns associated with the first concept, wherein each annotation visually emphasizes the text patterns and related text surrounding the locations of the one or more keywords;

extracting contents of the document, the contents comprising text and one or more elements;

displaying a single thumbnail image in a second viewing area of the display based on the contents extracted from the document, the single thumbnail image displaying the contents of the document including the annotations in a continuous non-paginated form;

dynamically changing the contents of the single thumbnail image to reflect a change in the contents of the document displayed in the first viewing area; and
emphasizing an area of the single thumbnail image corresponding to the section of the document displayed in the first viewing area.

20 - 29. (Canceled).

30. (Previously Presented) A system for displaying a document using a browser, the system comprising:

a processor; and

a memory coupled to the processor and configured to store a plurality of modules for execution by the processor, the plurality of modules module including:

a module for accessing a document;

a module for receiving user input selecting a first concept from a plurality of concepts;

a module for displaying a section of the document in a first viewing area of a display including displaying annotations that visually emphasize portions of the document that are relevant to the first concept, the annotations visually highlighting portions of the document that include of one or more keywords associated with the one or more concepts and identified from a plurality of keywords stored for the first concept, wherein each annotation visually emphasizes the one or more keywords and related text surrounding the locations of the one or more keywords;

a module for extracting contents of the document, the contents comprising text and one or more elements;

a module for displaying a single thumbnail image in a second viewing area of the display based on the contents extracted from the document, the single thumbnail image displaying the contents of the document in a continuous non-paginated form;

a module for emphasizing an area of the single thumbnail image corresponding to the section of the document displayed in the first viewing area including the annotations; and

a module for dynamically changing the contents of the single thumbnail image to reflect a change in the contents of the document displayed in the first viewing area.

31. (Previously presented) The system of claim 30 wherein:

the module for extracting the contents of the document comprises:

a module for determining dimension information for the contents; and

a module for determining coordinate information for the contents; and

the module for displaying the single thumbnail image comprises:

a module for displaying the contents in the single thumbnail image based on the dimension and coordinate information for the contents.

32. (Previously presented) The system of claim 31 wherein the module for displaying the contents in the single thumbnail image based on the dimension and coordinate information for the contents comprises:

for each content:

a module for determining position of the content in the single thumbnail image by dividing the coordinate and dimension information for the content by a reduction ratio.

33. (Previously presented) The system of claim 30 wherein each concept of the plurality of concepts is specified as one or more keywords belonging to the concept.

34. (Previously presented) The system of claim 43 wherein the module for displaying the single thumbnail image comprises:

a module for displaying each text entity in the single thumbnail image that is relevant to the first concept from the set of concepts using the style information for the first concept.

35. (Previously presented) The system of claim 43 wherein the plurality of modules stored in the memory further comprises:

a module for modifying the style information for the first concept;

in response to the modification:

a module for identifying text entities in the document which are relevant to the first concept; and

a module for dynamically changing the display of the identified text entities in the single thumbnail image based on the modified style information.

36. (Previously presented) The system of claim 30 wherein the module for extracting the contents of the document comprises:

a module for extracting one or more forms contained in the document; and

a module for determining dimension and coordinate information for the one or more forms.

37. (Previously presented) The system of claim 30 wherein the module for extracting the contents of the document comprises:

a module for extracting one or more image elements contained in the document;

and

a module for determining dimension and coordinate information for the one or more image elements.

38. (Previously Presented) A system for displaying a document using a browser, the system comprising:

a processor; and

a memory coupled to the processor and configured to store a plurality of modules for execution by the processor, the plurality of modules module including:

a module for accessing the document;

a module for receiving user input selecting a first concept from a plurality of concepts;

a module for identifying, from previously defined information comprising associations between a plurality of text patterns and the plurality of concepts, one or more text patterns in the plurality of text patterns that are associated with the first concept, wherein the identification is independent of a user selection of a second concept from the plurality of concepts;

a module for searching the document to identify occurrences of the one or more text patterns in the document;

a module for displaying a section of the document in a first viewing area of a display such that the occurrences of the text patterns in the document are annotated, the annotations visually emphasizing portions of the document that are relevant to the first concept, the annotations visually highlighting portions of the document that include of the text patterns associated with the first concept, wherein each annotation visually emphasizes the text patterns and related text surrounding the locations of the one or more keywords;

a module for extracting contents of the document, the contents comprising text and one or more elements;

a module for displaying a single thumbnail image in a second viewing area of the display based on the contents extracted from the document, the single thumbnail image displaying the contents of the document including the annotations in a continuous non-paginated form;

a module for dynamically changing the contents of the single thumbnail image to reflect a change in the contents of the document displayed in the first viewing area ; and

a module for emphasizing an area of the single thumbnail image corresponding to the section of the document displayed in the first viewing area.

39. (Canceled).

40. (Previously Presented) A computer program product stored on a computer readable storage medium for displaying a document using a browser, the computer program product comprising:

code for accessing a document;

code for receiving user input selecting a first concept from a plurality of concepts;
code for displaying a section of the document in a first viewing area of a display including displaying annotations that visually emphasize portions of the document that are relevant to the first concept, the annotations visually highlighting portions of the document that include one or more keywords associated with the one or more concepts and identified from a plurality of keywords stored for the first concept, wherein each annotation visually emphasizes the one or more keywords and related text surrounding the locations of the one or more keywords;

code for extracting contents of the document, the contents comprising text and one or more elements;

code for displaying a single thumbnail image in a second viewing area of the display based on the contents extracted from the document, the single thumbnail image displaying the contents of the document including the annotations in a continuous non-paginated form;

code for emphasizing an area of the single thumbnail image corresponding to the section of the document displayed in the first viewing area; and

code for dynamically changing the contents of the single thumbnail image to reflect a change in the contents of the document displayed in the first viewing area.

41. (Previously Presented) A computer program product stored on a computer readable storage medium for displaying a document using a browser, the computer program product comprising:

code for accessing the document;

code for receiving user input selecting a first concept from a plurality of concepts;

code for identifying, from previously defined information comprising associations between a plurality of text patterns and the plurality of concepts, one or more text patterns in the plurality of text patterns that are associated with the first concept, wherein the identification is independent of a user selection of a second concept from the plurality of concepts;

code for searching the document to identify occurrences of the one or more text patterns in the document;

code for displaying a section of the document in a first viewing area of a display such that the occurrences of the text patterns in the document are annotated, the annotations visually emphasizing portions of the document that are relevant to the first concept, the annotations visually highlighting portions of the document that include of the text patterns associated with the first concept, wherein each annotation visually emphasizes the text patterns and related text surrounding the locations of the one or more keywords;

code for extracting contents of the document, the contents comprising text and one or more elements;

code for displaying a single thumbnail image in a second viewing area of the display based on the contents extracted from the document, the single thumbnail image displaying the contents of the document including the annotations in a continuous non-paginated form;

code for dynamically changing the contents of the single thumbnail image to reflect a change in the contents of the document displayed in the first viewing area; and

code for emphasizing an area of the single thumbnail image corresponding to the section of the document displayed in the first viewing area.

42. (Previously presented) The method of claim 11, wherein extracting the contents of the document comprises:

extracting one or more text entities contained in the document;

determining dimension and coordinate information for the one or more text entities;

determining if the one or more text entities are relevant to the first concept, wherein the determination is independent of a user selection of a second concept from the set of concepts; and

associating each text entity that is relevant to the first concept with style information for the first concept, wherein the style information for the first concept indicates a manner of annotating text entities which are relevant to the first concept.

43. (Previously presented) The system of claim 30, wherein the module for extracting the contents of the document comprises:

- a module for extracting one or more text entities contained in the document;
- a module for determining dimension and coordinate information for the one or more text entities;

- a module for determining if the one or more text entities are relevant to the first concept wherein the determination is independent of a user selection of a second concept from the plurality of concepts; and

- a module for associating each text entity that is relevant to the first concept with style information for the first concept, wherein the style information for the first concept indicates a manner of annotating text entities which are relevant to the first concept.

44. (Previously presented) The computer program product of claim 41, wherein the code for extracting the contents of the document comprises:

- code for extracting one or more text entities contained in the document;
- code for determining dimension and coordinate information for the one or more text entities;

- code for determining if the one or more text entities are relevant to the first concept wherein the determination is independent of a user selection of a second concept from the plurality of concepts; and

- code for associating each text entity that is relevant to the first concept with style information for the first concept, wherein the style information for the first concept indicates a manner of annotating text entities which are relevant to the first concept.

10. EVIDENCE APPENDIX

None.

11. RELATED PROCEEDINGS APPENDIX

None.